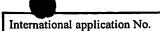
PCT/EP2003/003107

# **PCT**

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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anslation.	TERNATIONAL PRELIMIN	ARY EXAMINA	ATION REPORT
	(PCT Article 3	6 and Rule 70)	
Applicant's or agent's file ref	I FOR RIBTHER ACT		cation of Transmittal of Interna Examination Report (Form PCT/IPEA
International application No. PCT/EP2003/003	International filing date 26 March 2003		Priority date (day/month/year)  08 April 2002 (08.04.2002)
International Patent Classifica H02P 6/16	ntion (IPC) or national classification and	IPC .	
Applicant	DR.JOHANNES HEI	DENHAIN GME	н
amended and 70.16 and Sec	also accompanied by ANNEXES, i.e., sl are the basis for this report and/or sheets tion 607 of the Administrative Instructions consist of a total of sl	containing rectificans under the PCT).	on, claims and/or drawings which have ations made before this Authority (see
amended and 70.16 and Sec  These annexe  3. This report contains  I Basi  II Prior  III Non  IV Lack  V Reas citat  VI Cert  VII Cert	are the basis for this report and/or sheets tion 607 of the Administrative Instructions consist of a total of sheets indications relating to the following items of the report	containing rectificans under the PCT).  eets.  s:  novelty, inventive st  regard to novelty, in atement	ations made before this Authority (see
amended and 70.16 and Sec  These annexe  3. This report contains  I Basi  II Prior  III Non  IV Lack  V Reas  citat  VI Cert  VII Cert  VIII Cert	are the basis for this report and/or sheets tion 607 of the Administrative Instruction 607 of the Administrative Instruction as consist of a total of	containing rectificans under the PCT).  eets.  s:  novelty, inventive st  regard to novelty, in  atement  n  lication	tep and industrial applicability



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

PCT	/ሮወኃ	003	/nna	107
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I. Basis of the report					
1. With regard to the elements of the international application:*					
	the international application as originally filed				
	the desci	iption:			
_	pages	1-7	, as originally filed		
	pages		, filed with the demand		
	pages _	, filed with the letter of			
	the clain				
	pages		, as originally filed		
	pages	, as amended (together	with any statement under Article 19		
	pages		, filed with the demand		
	pages	2-9/1, filed with the letter of	14 Jun 2004/06 March 2004		
	the draw	nings:			
			, as originally filed		
	pages _	1/2-2/2	, filed with the demand		
		, filed with the letter of			
<u> </u>	•	ace listing part of the description:	as originally filed		
	pages _		, as originally filed with the demand		
	pages _	, filed with the letter of			
the i	nternation	the language, all the elements marked above were available or furnished to the al application was filed, unless otherwise indicated under this item.			
Thes	e element	s were available or furnished to this Authority in the following language	which is:		
Ì	_	guage of a translation furnished for the purposes of international search (under Ru	ıle 23.1(b)).		
▎▕▃		guage of publication of the international application (under Rule 48.3(b)).			
╽╙	the lang	guage of the translation furnished for the purposes of international preliminary).	examination (under Rule 55.2 and/		
3. With preli	h regard iminary ex	to any nucleotide and/or amino acid sequence disclosed in the internation was carried out on the basis of the sequence listing:	tional application, the international		
	contain	ed in the international application in written form.			
	filed to	gether with the international application in computer readable form.			
	furnish	ed subsequently to this Authority in written form.			
	furnish	ed subsequently to this Authority in computer readable form.			
		atement that the subsequently furnished written sequence listing does not tional application as filed has been furnished.	t go beyond the disclosure in the		
		atement that the information recorded in computer readable form is identical rnished.	to the written sequence listing has		
4.	The am	endments have resulted in the cancellation of:			
		the description, pages			
		the claims, Nos.			
		the drawings, sheets/fig			
5. 🗌	This rep	oort has been established as if (some of) the amendments had not been made, s the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**	ince they have been considered to go		
in t	lacement s his report 70.17).	sheets which have been furnished to the receiving Office in response to an invite as "originally filed" and are not annexed to this report since they do n	ation under Article 14 are referred to ot contain amendments (Rule 70.16		
	•	ent sheet containing such amendments must be referred to under item $\it I$ and ann	exed to this report.		

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

I ational	application No.
PCT/EP	03/03107

v.	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement				
1.	Statement				
	Novelty (N)	Claims	1-9	YES	
		Claims		NO	
	Inventive step (IS)	Claims	1-9	YES .	
		Claims		NO NO	
	Industrial applicability (IA)	Claims	1-9	YES	
		Claims		NO .	

2. Citations and explanations

Reference is made to the following document:

D1: XP000617549, "A PROCEDURE TO ESTIMATE THE ABSOLUTE POSITION OF THE ROTOR FLUX OF A PERMANENT MAGNET SYNCHRONOUS MACHINE", EUROPEAN CONFERENCE ON POWER ELECTRONICS AND APPLICATIONS, 1991 (BACKHAUS; REINOLD; KALKER).

#### Subject

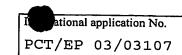
The application relates to a method for determining the position of the rotor in a synchronous motor.

### Distinguishing technical features

Document D1 is considered to be the closest prior art. Said document describes a method for determining the position of the rotor in a synchronous motor, a plurality of current vectors being applied in different directions to the synchronous motor, and the current vector value required for achieving a predetermined rotor offset being established. The position of the rotor is calculated from at least one angular position of the current vector,

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT



at which the value of the current vector required to achieve the predetermined rotor offset is lowest.

The application contains two independent claims that differ from the prior art by virtue of the following features:

- the motor is stopped;
- once the current vector is no longer applied, the rotor returns to its starting position.

In consequence, claims 1-9 are novel.

### Problem of interest

The rotor position can be determined by means of the features of claims 1 and 9, all the movements being controlled.

In consequence, claims 1-9 are inventive.